

L1 ANSWER 1 OF 10 WPIX COPYRIGHT 2007 THE THOMSON CORP on STN  
 ACCESSION NUMBER: 2002-609751 [66] WPIX  
 DOC. NO. CPI: C2003-031598 [12]  
 TITLE: New carbamate-substituted pyrazolo(3,4-b)pyridine  
 derivatives, are soluble guanylate cyclase  
 stimulants useful e.g. for treating cardiovascular or  
 central nervous system diseases, sexual dysfunction or  
 inflammation  
 DERWENT CLASS: B02  
 INVENTOR: ALONSO-ALIJA C; DEMBOWSKY K; FEURER A; FLUBACHER  
 D; LANG D; PERZBORN E; STAHL E; STASCH J; STRAUB A;  
 WEIGAND S; WUNDER F  
 PATENT ASSIGNEE: (ALON-I) ALONSO-ALIJA C; (FARB-C) BAYER AG;  
 (FARB-C) BAYER HEALTHCARE AG; (DEMB-I) DEMBOWSKY K; (FEUR-  
 I) FEURER A; (FLUB-I) FLUBACHER D; (LANG-I) LANG D;  
 (PERZ-I) PERZBORN E; (STAHL-I) STAHL E; (STAS-I) STASCH J;  
 (STRA-I) STRAUB A; (WEIG-I) WEIGAND S; (WUND-I) WUNDER F  
 COUNTRY COUNT: 97

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
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DE 10057751	A1	20020523	(200266)*	DE	29[0]	
AU 2002016028	A	20020603	(200266)	EN		
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<-- WO 2002042300	A1	20020530	(200266)	DE		
<-- EP 1339717	A1	20030903	(200365)	DE		
US 20040082596	A1	20040429	(200429)	EN		
JP 2004517827	W	20040617	(200440)	JA	99	
EP 1339717	B1	20050209	(200512)	DE		
DE 50105334	G	20050317	(200522)	DE		
ES 2236360	T3	20050716	(200549)	ES		
US 20050261323	A1	20051124	(200577)	EN		
US 7105523	B2	20060912	(200660)	EN		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
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DE 10057751 A1		DE 2000-10057751	20001122
DE 50105334 G		DE 2001-505334	20011109
EP 1339717 A1		EP 2001-997488	20011109
EP 1339717 B1		EP 2001-997488	20011109
DE 50105334 G		EP 2001-997488	20011109

ES 2236360 T3		EP 2001-997488 20011109
WO 2002042300 A1		***WO 2001-EP12966
20011109***		
EP 1339717 A1		WO 2001-EP12966 20011109
US 20040082596 A1		WO 2001-EP12966 20011109
JP 2004517827 W		WO 2001-EP12966 20011109
EP 1339717 B1		WO 2001-EP12966 20011109
DE 50105334 G		WO 2001-EP12966 20011109
US 20050261323 A1 Cont of		WO 2001-EP12966 20011109
AU 2002016028 A		AU 2002-16028 20011109
JP 2004517827 W		JP 2002-544434 20011109
US 20040082596 A1		US 2003-432571 20031023
US 20050261323 A1 Cont of		US 2003-432571 20031023
US 20050261323 A1		US 2005-192961 20050729
US 7105523 B2		WO 2001-EP12966 20011109
US 7105523 B2		US 2003-432571 20031023

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 50105334	G	Based on EP 1339717 A
ES 2236360	T3	Based on EP 1339717 A
AU 2002016028	A	Based on WO 2002042300 A
EP 1339717	A1	Based on WO 2002042300 A
JP 2004517827	W	Based on WO 2002042300 A
EP 1339717	B1	Based on WO 2002042300 A
DE 50105334	G	Based on WO 2002042300 A
US 7105523	B2	Based on WO 2002042300 A

PRIORITY APPLN. INFO: DE 2000-10057751 20001122

AN 2002-609751 [66] WPIX

AB DE 10057751 A1 UPAB: 20060202

NOVELTY - 4-Amino-2-(1-(2-fluorobenzyl)-1H-pyrazolo(3,4-

b)pyridin-3-yl)-

pyrimidin-5-yl carbamates (I) are new.

DETAILED DESCRIPTION - 4-Amino-2-(1-(2-fluorobenzyl)-1H-pyrazolo(3,4-b)pyridin-3-yl)-pyrimidin-5-yl carbamates of formula (I) and

their salts, isomers and hydrates are new.

R1 = H or dialkylaminocarbonyl;

R2 = -O-C(X)-NR3R4;

X = O or S;

hydroxyalkyl,

2-6C alkenyl, alkylcarbonyloxyalkyl, alkoxy carbonylalkyl, carboxyalkyl,

phenyl (optionally substituted by alkyl), 5-7 membered saturated heterocyclic (optionally bonded via alkyl) or 3-8C cycloalkyl (all optionally substituted); or

NR3R4 = 5-7 membered saturated heterocycle (optionally substituted

and optionally containing a further N, O or S heteroatom and/or fused with

a benzene ring); and

alkyl = 1-6C unless specified otherwise.

An INDEPENDENT CLAIM is also included for the preparation of (I).

ACTIVITY - Cardiant; Vasotropic; Hypotensive; Thrombolytic; Anticoagulant; Antiinflammatory; Antianginal; Antiarrhythmic; Cerebroprotective; Antiarteriosclerotic; Antiasthmatic; Cytostatic; osteopathic; Uropathic; Nootropic; Neuroprotective; Antiparkinsonian; Vulnerary; Anti-HIV; Neuroleptic; Tranquilizer; Hypnotic; Antimigraine; Analgesic; Anorectic; Anabolic.

In tests to determine inhibition of phenylephrine-induced contraction of rabbit aortic rings in vitro, 4-Amino-2-(1-(2-fluorobenzyl)-

1H-pyrazolo(3,4-b)pyridin-3-yl)-pyrimidin-5-yl N-isopropyl-N-methylcarbamate (Ia) displayed an IC<sub>50</sub> of 0.27 microM.

MECHANISM OF ACTION - Soluble Guanylate Cyclase Stimulant. (I) Directly stimulate soluble guanylate cyclase and increase cellular cGMP levels, and thus cause vascular relaxation, inhibit thrombocyte aggregation, reduce blood pressure, increase coronary blood flow and potentiate the action of compounds which increase cGMP levels.

USE - (I) are used as medicaments, specifically for treating cardiovascular diseases, hypertension, thromboembolic diseases, sexual dysfunction, inflammation or central nervous system disorders (all claimed). Specific disorders to be treated include cardiac insufficiency, stable or unstable angina pectoris, arrhythmia, myocardial infarction, cerebral stroke, transitory ischemic attacks, peripheral blood flow disorders, restenosis, arteriosclerosis, asthma, prostate hypertrophy, erectile dysfunction, female sexual dysfunction, osteoporosis, gastroparesis, incontinence, cognitive disorders, age-associated learning and memory disorders, vascular dementia, cranial-cerebral trauma, Alzheimer's disease, Parkinson's disease, progressive nuclear palsy, amyotrophic lateral sclerosis, Huntington's disease, multiple sclerosis, thalamic degeneration, Creutzfeld-Jacob dementia, HIV dementia, schizophrenia, Korsakoff psychosis, anxiety, stress, depression, sleep disorders, eating disorders, migraine and pain.